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THE RE-DISCOVERY OF CAVICHELES KEMPI *HOLTHUIS (DECAPODA NATANTIA, PONTONIINAE) IN THE COMORES.* [1]

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The only species of the monotypic genus *Cavicheles* Holthuis is known by a single incomplete specimen collected in 1930 from Ternate. No specimens have been subsequently reported in the literature. Two further specimens were obtained by the author during the ninth cruise of the R. V. *Anton Bruun* as part of the U. S. Programme in Biology for the International Indian Ocean Expedition. The host of the original specimen was not recorded and the present record therefore indicates a considerable extension of the known geographical range of the species as well as adding to the description of the species and knowledge of its habits.

Cavicheles kempi Holthuis (fig. 1, a-c).

Holthuis, L. B., 1952, *Siboga Exped.*, mon. **39** a 10, 204-208, figs. 99-101.
Holthuis, L. B., 1955, *Zool. Verhandl.*, **26**, 70, fig. 43 a.

Material Examined.

1. Pamanzi Island reef, Zaoudzi, Mayotte, Comores, R. V. *Anton Bruun*, Cr. 9, 24 November 1964. Coral washings, R. U. Gooding coll., 1 ♀.

2. Mounimeri Island reef, Zaoudzi, Mayotte, Comores. R. V. *Anton Bruun*, Cr. 9, 25 November 1964. Coral washings, R. U. Gooding coll. 1 ♀.

The two specimens agree well with the description as detailed by Holthuis. A few small differences may be noted and the first pereiopods, which were missing from the holotype, can now be described.

One female has four dorsal rostral teeth with a single small ventral tooth, very similar to that shown in Holthuis' figure. The other specimen has five dorsal teeth and a single well developed ventral tooth, distinctly larger than shown in Holthuis' illustration. A well marked supra-

1. Contribution No. 25 from the Fisheries Research Station, Hong Kong.

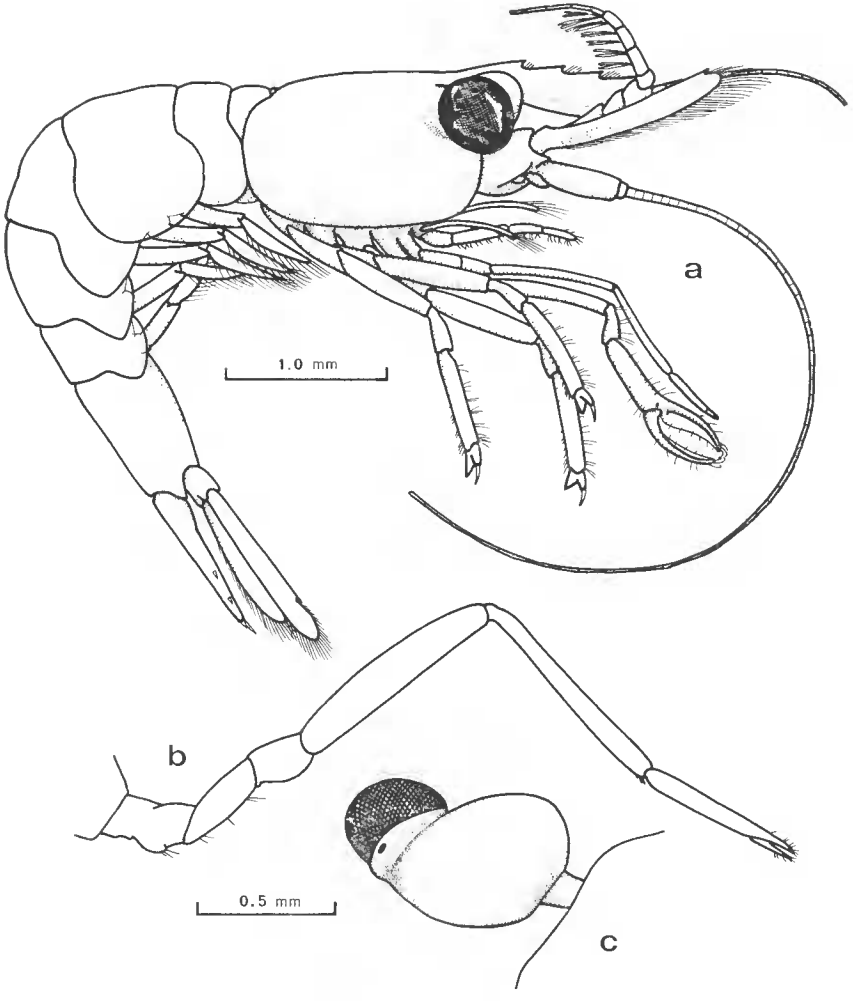

Fig. 1. — *Cavicheles kempi* Holthuis.
a, female, Mounimeri, Zaoudzi, Mayotte, Comcres ; b, left first pereiopod ; c, female, Pamanzi, dorsal view of eye.

orbital ridge is present above a distinct orbital depression, and the antennal spine is more robust than illustrated by Holthuis.

The ophthalmic somite bears a small median black pigment spot. The cornea in one specimen is distinctly narrower than the peduncle from which it is separated by a well defined sulcus (fig. 1 c) and resembles that of the holotype. The cornea of the second specimen is larger than the peduncle with only a feebly indicated sulcus. Both specimens have a well developed ocellus on the posterior aspect of the eye. In both examples pre-

servation appears satisfactory and does not appear to be the cause of the differences.

The mouthparts have not been removed from either specimen.

The upper flagellum of the antennules consists of three stout proximal segments bearing seven groups of aesthetascs and five slender distal segments. The shorter ramus appears to be completely fused with the longer and no free segments could be discerned. The lower flagellum is slender and consists of 14 segments. The first pereiopod (fig. 1 b) is long and slender, and exceeds the tip of the scaphocerite by the length of the chela. The palm of the chela is sub-cylindrical and decreases in size distally. The fingers are acute and narrow and equal to one quarter of the palm in length. The carpus is cylindrical, one and a half times the length of the propod and ten times longer than wide. The merus is subequal in length to the carpus but markedly broader and slightly flattened. The ischium is short and broad, about one and a half times longer than wide. The coxa bears a very small medial setose knob. The chela of the second pereiopod clearly shows the deeply excavated fingers as described by Holthuis. The outer margins of the fingers appear are strongly convex, especially the dactyl, which contrasts with that of the holotype, in which these margins appear only feebly curved. The sternites of the first and second pereiopods are unarmed. The sternites of the third to fifth pereiopods increase in width posteriorly and the third bears a distinct median rounded eminence.

Size. Both specimens are small and have carapace lengths of 1.2 and 0.9 mms. respectively. Total lengths are approximately 7 and 6 mms.

Colour. One specimen was noted, shortly after death, to be mainly transparent with a few fine lateral longitudinal red striae along body and a line of red dots along the third to fifth perciopods. The antennae, first pereiopods and caudal fan were transparent and the second pereiopods were transparent with red on the fingers of the chela.

Host. Both specimens were obtained in shallow water from corals of the genus *Acropora*. The Mounimeri specimen was associated with many specimens of *Jocaste*.

Discussion.

The genus *Cavicheles* Holthuis is now known to be commensally associated with scleractinian corals like several other Indo-Pacific pontoniinid genera such as *Periclimenes*, *Harpiliopsis*, *Philarius*, *Coralliocaris*, *Jocaste*, *Fennera*, *Platycaris*, *Ischnopontonia* and *Paratypton*. Of these genera only *Periclimenes*, *Harpiliopsis*, *Philarius*, *Fennera*, *Coralliocaris* and *Jocaste* are associated with the surfaces of branching corals and amongst these, *Cavicheles* shows the closest resemblance to *Jocaste*. The form of the second pereiopods in *Cavicheles kempi* is very characteristic and closely resembles the form of the smaller second pereiopod in *Jocaste*. The long slender first pereiopods are also very

similar to the same appendage in *Jocaste*. The two genera may be easily be separated by the presence of the hoof-shaped basal process on the dactyls of third to fifth pereiopods, the markedly asymmetrical second pereiopods and the distinct hepatic spines in *Jocaste*.

The new record from the Comores represents a great extension in the known geographical range of the species, previously only known from Ternate, Halmahera Island in the Molucca Archipelago. The small size and transparency of the species is probably one of the main reasons for the lack of records as specimens would be easy to overlook and it is probable that further careful examination of the shrimps that are associated with branching corals will reveal that the species is widespread in the Indo-Pacific region. Further examples would also indicate if specific significance should be attached to the differences noted in the form of the antennule and the chela of the second pereiopod. Until more material indicates the full extent of individual variation in this species, the conservative course is followed and the specimens are considered to belong to Holthuis' species.

The Mounimeri specimen has been deposited in the Smithsonian Institution, U. S. National Museum, Washington.

Résumé.

De nouveaux spécimens de *Cavicheles kempi* Holthuis ont été découverts dans l'archipel des Comores. L'espèce n'était connue, jusqu'à présent, que par l'holotype, un spécimen endommagé récolté à Ternate, dans l'archipel des Moluques. L'appendice qui manquait chez le type (premier péréiopode) est décrit. Nous notons l'association de ces crevettes avec les coraux du genre *Acropora*, ainsi que les similarités qu'elles présentent avec d'autres genres de Pontoniides vivant parmi les coraux.

LITERATURE CITED

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Holthuis, L. B. 1955. The Recent Genera of the Caridean and Stenopodidean Shrimps (Class Crustacea, Order Decapoda, Super-section Natantia) with Keys for their Determination. *Zool. Verhandl.*, **26** : 1-157, figs. 105.